

First Named Invention: Yi-Min Wang

Application No.: 10/762804

Filed: January 22, 2004

Customer No.: 22971

Attorney Docket No.: 124439.09

Group Art Unit: 2194

Confirmation No.: 5395

Examiner: LI B ZHEN

Title: Accelerating a distributed component architecture over a network using a modified RPC communication

Commissioner for Patents

P.O. Box 1450

Alexandria VA 22313-1450

## AMENDMENT

In response to the Examiner initiated telephonic interview on July 22, 2009, please find below for your convenience marked up copies of claims amended per our discussion.

Should further amendments or modifications be required (either minor or major), please feel free to call me at +1 (425) 703-8116. Because the claim amendments are intended as the basis of an examiner amendment, only the claims which are being changed are provided here. Currently presented claims are marked up based upon and presuming acceptance of the amendments included in Applicant's response to the February 5, 2009 Office Action.

**Amendments to the Claims** are reflected in the listing of claims that begins on page 3 of this amendment.

**Remarks** begin on page 12 of this amendment.

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## Amendments to the Claims:

Claims 1 – 60 (Previously Canceled).

### Claim 61. (Currently Amended)

A method of communication between a first object located on a first computer and a second object located on a second computer, the first and second computers connected by a network, the method comprising:

calling an interface of the second object by the first object on the first computer, and wherein the calling the interface of the second object by the first object comprises (a) bypassing a mechanism, the bypassed mechanism comprising adding a remote procedure call (RPC) interface identifier (IID) of the second object to the call, and (b) adding an ~~alternative identifier~~ interface pointer identifier (IPIID) to the call;

performing RPC utility functions on the call at the first computer; and

communicating the call to the second computer, wherein the second computer:

receives the call;

performs RPC utility functions on the call;

determines if the call includes the IPIID ~~alternative identifier~~;

if the call does not include the IPIID ~~alternative identifier~~,

calls an RPC dispatching function;

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if the call does include the IPID ~~alternative identifier~~, calls an alternative dispatching function based on the IPID ~~alternative identifier~~, bypassing the RPC dispatching function;  
invokes a stub; and  
accesses the interface of the second object identified by the IPID ~~alternative identifier~~.

Claims 62-64, 66-67, 69-74. (Unchanged)

Claims 65, 68, 75. (Previously Canceled)

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**Claim 76. (Currently Amended)**

One or more computer-readable medium having computer-executable instructions to enable communications between a first object located on a first computer and a second object located on a second computer, the first and second computers connected by a network, the computer-executable instructions performing steps comprising:

calling an interface of the second object by the first object on the first computer, wherein the computer-executable instructions for calling the interface of the second object by the first object comprise (a) computer-executable instructions for bypassing computer executable instructions, the bypassed computer-executable instructions comprising adding a remote procedure call (RPC) interface identifier (IID) of the second object to the call, and (b) adding an ~~alternative identifier~~ interface pointer identifier (IPID) to the call;

performing RPC utility functions on the call at the first computer; and

communicating the call to the second computer, wherein the second computer:

receives the call;

performs RPC utility functions on the call;

determines if the call includes the IPID ~~alternative identifier~~;

if the call does not include the IPID ~~alternative identifier~~,

calls an RPC dispatching function;

if the call does include the IPID ~~alternative identifier~~, calls an alternative dispatching function based on the IPID ~~alternative identifier~~, bypassing the RPC dispatching function;

invokes a stub; and

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accesses the interface of the second object identified by the  
IPID ~~alternative identifier~~.

Claims 77-79, 81-89. (Unchanged)

Claims 80, 90. (Previously Canceled)

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**Claim 91. (Currently Amended)**

A method of communication between a first object located on a first computer and a second object located on a second computer, the first and second computers connected by a network, the method comprising:

receiving, at the second computer, a call to an interface of the second object from the first object on the first computer;

performing remote procedure call (RPC) utility functions on the received call, wherein the RPC utility functions are performed on the received call by a RPC utility layer, the RPC utility layer comprising a pointer to an alternative dispatching function, wherein the pointer allows the call to be passed directly to the dispatching layer;

determining the call does not contain an RPC interface identifier (IID) but does contain an interface pointer identifier (IPID);

passing the received call to the alternative dispatching function so as to bypass a RPC dispatching function, wherein the bypassed RPC dispatching function would have otherwise been called if the ~~RPC IID~~ IPID was not contained in the call;

invoking a stub; and

accessing the interface of the second object.

Claims 92, 94–100, 102–103 (Unchanged)

Claims 93, 101. (Previously Canceled)

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**Claim 104. (Currently Amended)**

One or more computer-readable medium having computer-executable instructions to enable communications between a first object located on a first computer and a second object located on a second computer, the first and second computers connected by a network, the computer-executable instructions performing steps comprising:

receiving, at the second computer, a call to an interface of the second object from the first object on the first computer;

performing remote procedure call (RPC) utility functions on the received call, wherein the computer-executable instructions for performing RPC utility functions on the received call comprise a pointer to the dispatching function, wherein the pointer allows the call to be passed directly to the dispatching layer;

determining the call does not contain an RPC interface identifier (IID) but does contain an interface pointer identifier (IPID);

passing the received call to a dispatching function so as to bypass a RPC dispatching function, wherein the bypassed RPC dispatching function would have otherwise been called if the ~~RPC-ID~~ IPID was not contained in the call;

invoking a stub; and

accessing the interface of the second object.

**Claim 105-116. (Unchanged)**

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**Claim 117. (Previously Presented)**

A computing device comprising:

a processor;

an object, the object comprising an interface that is called by a second object on a second computing device;

a network connection, wherein the network connection communicably connects the computing device to the second computing device;

a remote procedure call (RPC) utility layer, wherein the RPC utility layer (a) determines whether the call contains an RPC interface identifier (IID), (b) performs RPC utility functions on the interface call by the second object, and (c) passes the interface call to a dispatching function, the dispatching function being a RPC dispatching function when the call contains an RPC IID, and an alternative dispatching function when the call does not contain an RPC IID but does contain an interface pointer identifier (IPID), and wherein the RPC utility layer comprises a pointer to the alternative dispatching function, wherein the pointer allows the call to be passed directly to the alternative dispatching function; and

a dispatching layer comprising the alternative dispatching function, wherein the dispatching layer invokes a stub and accesses the interface.

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Claim 118. (Previously Presented)

A computing device comprising:

a processor;

an object, the object calling an interface of a second object on a second computing device;

a remote procedure call utility layer, wherein the remote procedure call utility layer performs remote procedure call utility functions on the call;

a bypass of a mechanism, the mechanism comprising adding a remote procedure call (RPC) interface identifier (IID) to the call; and

a network connection, wherein the network connection communicates the call to the second computing device, and wherein further the second computing device receives the call, performs RPC utility functions on the call, determines whether the call contains the RPC IID, when the call contains the RPC IID, passes the call to a RPC dispatching function, when the call does not contain the RPC IID but does contain an interface pointer identifier (IPID), passes the call to an alternative dispatching function so as to bypass the RPC dispatching function, invokes a stub, and accesses the interface of the second object.

Claims 119–125. (Newly Canceled)

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Claim 126. (New)

The method of claim 61, wherein the IPID is according to the DCOM object model.

Claim 127. (New)

The one or more computer readable medium of claim 76, wherein the IPID is according to the DCOM object model.

Claim 128. (New)

The method of claim 91, wherein the IPID is according to the DCOM object model.

Claim 129. (New)

The one or more computer readable medium of claim 104, wherein the IPID is according to the DCOM object model.

Claim 130. (New)

The computing device of claim 117, wherein the IPID is according to the DCOM object model.

Claim 131. (New)

The computing device of claim 118, wherein the IPID is according to the DCOM object model.

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## REMARKS

This amendment is in response to an Examiner initiated telephonic interview on July 22, 2009. Claims 61–64, 66–67, 69–74, 76–79, 81–89, 91–92, 94–100, and 102–125 were pending. By this authorization for examiner amendment, claims 61, 76, 91, 104, 117, and 118 are amended, claims 119–125 are canceled, and new claims 126–131 are presented.

### 1. Summary of the amendments

Claims 61 and 76 are believed to be in accord with our discussion, modifying the alternative identifier to be an interface pointer identifier.

Claim 91 and 104 are believed to be in accord with our discussion, by explicitly recited that the call contains an IPID. Applicant also notes that Claim 104 as previously presented failed to properly markup the addition of the first three words, “One or more”, which replaced previously used term “A”. Applicant has marked up Claim 104 as though the “One or more” insertion had not been entered for avoidance of doubt.

Claim 117 and 118 are believed to be in accord with our discussion, by adding the explicit recitation of a processor and a positive recitation of the IPID.

Claims 119–125 are newly canceled.

Claims 126–131 are newly presented, and indicate the IPID is according to the DCOM object model.

If any of the above amendments are not in accord with our discussion, please feel free to call me to correct the oversight.

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## **2. Support for the amendments**

These changes are fully supported in the specification. The specification defines an interface pointer identifier (IPID) as “a combination of the [interface ID] and the object identifier”. See page 23, last three lines. The IPID being according to the DCOM object model is fully supported in the original specification. See, for example, page 5 first and second paragraphs.

It is noted that all differences between the cited reference(s) and each claim may not necessarily be recited herein. This is not an admission on the part of the Applicant that Applicant concurs with the Examiner's assertions regarding the patentability of said claims over the cited reference(s). Applicant, in some cases, may simply choose to highlight particular differences between the claims and the reference(s). Such differences may render any differences not explicitly addressed moot.

## **3. Summary of Telephonic Interview**

Applicant thanks Examiner Li B Zhen for the courtesy of a telephonic interview on Wednesday, July 22<sup>nd</sup>, 2009. Henry Gabryjelski, Reg. No. 62,828 was present for the Applicant, and Examiner Zhen was present for the USPTO.

During the interview, the Examiner indicated that each of the independent claims would be allowable if amended as shown. Each dependent claim would therefore also be allowable.

Applicant thanks the Examiner for the courtesies extended to him throughout the call.

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#### **4. Authorization for Examiner Amendment**

Applicant hereby provides authorization for the Examiner to make amendments to the claims as shown herein for the purpose of allowing the present application.

Accordingly, in view of the above amendment and remarks it is submitted that the claims are patentably distinct over the prior art and that all the rejections to the claims have been overcome. Reconsideration and reexamination of the above Application is requested. Based on the foregoing, Applicants respectfully requests that the pending claims be allowed, and that a timely Notice of Allowance be issued in this case. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

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If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an enclosed check please charge any deficiency to Deposit Account No. 50-0463.

Respectfully submitted,  
Microsoft Corporation

Date: July 22, 2009

By: /Henry Gabryjelski/

Henry Gabryjelski, Reg. No.: 62,828  
Direct telephone 425-703-8116  
Microsoft Corporation  
One Microsoft Way  
Redmond WA 98052-6399

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